

TABLE 2 TO § 33.76.—MEDIUM FLOCKING BIRD WEIGHT AND QUANTITY REQUIREMENTS—Continued

Engine Inlet Throat Area (A)—Square-meters (square-inches)	Bird quantity	Bird weight kg. (lb.)
2.50 (3,875) ≤ A < 3.90 (6,045)	plus 5	0.70 (1.54)
	1	1.15 (2.53)
3.90 (6,045) ≤ A < 4.50 (6,975)	plus 6	0.70 (1.54)
4.50 (6,975) ≤ A	3	1.15 (2.53)
	4	1.15 (2.53)

TABLE 3 TO § 33.76.—ADDITIONAL INTEGRITY ASSESSMENT

Engine Inlet Throat Area (A)—square-meters (square-inches)	Bird quantity	Bird weight kg. (lb.)
1.35 (2,092) > A	none	
1.35 (2,092) ≤ A < 2.90 (4,495)	1	1.15 (2.53)
2.90 (4,495) ≤ A < 3.90 (6,045)	2	1.15 (2.53)
3.90 (6,045) ≤ A	1	1.15 (2.53)
	plus 6	0.70 (1.54)

[Doc. No. FAA-1998-4815, 65 FR 55854, Sept. 14, 2000]

§ 33.77 Foreign object ingestion—ice.

(a)–(b) [Reserved]

(c) Ingestion of ice under the conditions of paragraph (e) of this section may not—

(1) Cause a sustained power or thrust loss; or

(2) Require the engine to be shut-down.

(d) For an engine that incorporates a protection device, compliance with this section need not be demonstrated with respect to foreign objects to be ingested under the conditions prescribed in paragraph (e) of this section if it is shown that—

(1) Such foreign objects are of a size that will not pass through the protective device;

(2) The protective device will withstand the impact of the foreign objects; and

(3) The foreign object, or objects, stopped by the protective device will not obstruct the flow of induction air into the engine with a resultant sustained reduction in power or thrust greater than those values required by paragraph (c) of this section.

(e) Compliance with paragraph (c) of this section must be shown by engine test under the following ingestion conditions:

(1) Ice quantity will be the maximum accumulation on a typical inlet cowl

and engine face resulting from a 2-minute delay in actuating the anti-icing system; or a slab of ice which is comparable in weight or thickness for that size engine.

(2) The ingestion velocity will simulate ice being sucked into the engine inlet.

(3) Engine operation will be maximum cruise power or thrust.

(4) The ingestion will simulate a continuous maximum icing encounter at 25 degrees Fahrenheit.

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§ 33.78 Rain and hail ingestion.

(a) *All engines.* (1) The ingestion of large hailstones (0.8 to 0.9 specific gravity) at the maximum true air speed, up to 15,000 feet (4,500 meters), associated with a representative aircraft operating in rough air, with the engine at maximum continuous power, may not cause unacceptable mechanical damage or unacceptable power or thrust loss after the ingestion, or require the engine to be shut down. One-half the number of hailstones shall be aimed randomly over the inlet face area and the other half aimed at the critical inlet face area. The hailstones shall be ingested in a rapid sequence to simulate a hailstone encounter and the